TSD Playbook Integration

Overview

The TSD shall provide a Reroute option on the main TSD menu. The Reroute menu shall provide the primary method of accessing the reroute functions; however a quick key shall be provided to quickly access the Create Reroute function. The following options shall be provided on the main Reroute menu and the sub-menus:

Show/Hide Reroutes
Select Reroutes
Create Reroutes
Display Preferences >>>> Public
Local

Show/Hide Reroutes Function

Overview: The TSD shall provide a Show/Hide Reroutes option on the Reroute menu. This menu option shall toggle between "Show Reroutes" and "Hide Reroutes".

Menu Option: The TSD shall provide a Show/Hide option on the Reroutes menu.

Quick Key: None.

Functional Description

When the **Show** menu option is selected, the TSD shall show all reroute sets that have their Show check boxes checked in the Select Reroute dialog box. When reroutes are being shown, the TSD shall change the name of this menu item to "Hide Reroutes".

When the **Hide** menu option is selected, the TSD shall remove all reroute sets from the TSD display. The "Show" status of reroute sets in the Select Reroutes dialog boxes shall remain unchanged when reroutes are hidden. When reroutes are being hidden, the TSD shall change this menu item to "Show Reroutes".

Select Reroutes Function

Overview: When the Select Reroutes menu option is selected, the Select Reroutes dialog box shall be displayed. This dialog box shows the list of all reroute sets that are contained in the In-use table of the Reroute database. This dialog box allows the user to specify which reroute sets are to be shown on the TSD display, specify the attributes that will be used to display those reroutes and select reroute sets for editing and deletion.

Menu Option: The TSD shall provide a Select Reroutes option on the main Reroute menu.

Functional Description

When the **Reroute>Select Reroutes** menu option is selected, the TSD shall display the Select Reroutes dialog box. If no reroute sets exist, the TSD shall gray out the menu option.

When the user presses either the OK or Apply buttons in the Select Reroutes dialog box, the TSD shall show reroute sets. The TSD shall change the status of the Show/Hide Reroutes menu option to “Hide Reroutes” if it is in the “Show Reroutes” state.

Create Reroute Function

Overview: The Create Reroutes function shall allow the user to create new reroute sets and to designate the type of reroute. When this menu option is selected, the Create Reroute dialog box shall be displayed. This dialog box allows the user to create a reroute set. The user can do this by selecting and modifying a Playbook play or by creating an Adhoc reroute. This dialog box also allows the user to specify the display parameters and type (private, local, public) of the reroute set.

Menu Option: The TSD shall provide a Create Reroute option on the main Reroute menu. The TSD shall also provide a Create Reroute option on the generic pop-up menu.

Quick Key: The TSD shall provide the following quick key:

<N> Create Reroute

Functional Description

The TSD shall display the Create Reroute dialog box when the **Reroute>Create Reroute** menu option or the **Create Reroute** option is selected on the generic pop-up menu. The TSD shall also display the Create Reroute dialog box when the Create Reroute quick key is pressed.

When the Create Reroute dialog box is closed with OK or Apply, the TSD shall store the reroute set in the In-use table of the Reroute database.

Create Reroute Defaults Function

The Create Reroutes Defaults function will remain essentially unchanged. The following Changes shall be made:

- The Show Distance in Label parameter shall be removed. The TSD will no longer show the distance in the reroute label.

- Add a parameter for Default Class. The possible choices are: Playbook Route or Adhoc Route. This will be used to determine which Reroute Class option button, in the Create section of the Create Reroute dialog box, will be selected by default.

- Add a parameter for Show Route. This will determine if the value of the Show Route checkbox in the Create Reroute dialog box is set to true.

- Add a parameter for Message Type. The possible choices are: Advisory or General. This parameter will not be settable by users that are not authorized to create Public reroutes, since they are not authorized to send advisories.

- Add a parameter for Composite Advisory. This will determine if the value of the Composite Advisory checkbox in the Create Reroute dialog box is set to true. This parameter will not be settable by users that are not authorized to create Public reroutes, since they are not authorized to send advisories.

Edit Reroute Function

Overview: The Edit Reroutes function shall allow the user to edit an existing reroute set. To use this function, the user must first select a reroute in the Select Reroutes dialog box by clicking on the desired row. When the **Edit>Edit Reroute** menu option is selected, the Edit Reroute dialog box shall be displayed. This dialog box will allow the user to modify the reroute set, specify its display parameters, and specify the type of reroute (private, local, public).

Menu Option: The TSD shall provide an Edit Reroute menu option in the Select Reroutes dialog box.

Quick Key: None

Functional Description

The TSD shall display the Edit Reroute dialog box when the **Edit>Edit Reroute** menu option is selected. The Edit Reroute dialog box shall contain the definition of the reroute set as it is defined in the In-use table of the Reroute database. The user may then edit the reroute set definition as desired.

When the Edit Reroute dialog box is closed with OK or Apply, the TSD shall store the edited reroute set in the In-use table of the Reroute database.

Delete Reroute Function

Overview: The Delete Reroute function shall allow the user to delete an existing reroute set definition. To use this function, the user must first select a reroute set in the Select Reroutes dialog box by clicking on the desired row. The Select Reroutes dialog box shall provide a Delete Reroute menu option When this menu option is selected, the Delete Confirmation dialog box shall be displayed. This dialog box will allow the user to OK or Cancel the delete function.

Menu Option: The TSD shall provide a Delete Reroute menu option in the Select Reroutes dialog box.

Quick Key: **None**

Functional Description

The TSD shall display the Delete Confirmation dialog box when the **Edit>Delete Reroute** menu option in the Select Reroute dialog box is selected. To use this function, the user must first select a reroute set in the Select Reroutes dialog box by clicking on the desired row. If no reroute set has been selected, the TSD shall display an Error dialog box.

When the Delete Confirmation dialog is closed with OK, the TSD shall “delete” the reroute set from the In-use table of the Reroute database by setting the Active Flag of the record to the value 2.

Display Preferences

- The Display Preferences function will remain

Void Times

Void Times functionality will remain unchanged.

Coded Departure Routes

When the specialist is creating an Adhoc reroute, the TSD shall allow the specialist to copy routes from the RMT database (formerly know as the CDR database) into the Reroute grid in the Create/Edit Reroutes dialog box.

User Interface

Select Reroutes Dialog Box

The Select Reroutes dialog box shall remain essentially unchanged. The following changes will be made:

Each row in the Select Reroute dialog box will refer to a reroute set which may contain one or more reroute definitions. Any changes made to a reroute set, such as checking/unchecking the Show checkbox, or changing the color, will affect all routes in the reroute set. Since each row of the Select Reroutes dialog box will refer to a reroute set, it is no longer practical to show the Reroute Definition as a field in the row. Therefore, the Reroute Definition field shall be removed from the Select Reroutes dialog box.

The Reroute Information dialog box shall be changed as follows:

- Remove the "Traffic Normally Filed Via" and "Comments" text boxes.
- Just below the Last Update label, add a Reroute Class label. The Reroute Information dialog box will display the reroute class here – Playbook or Adhoc.
- Since a reroute set can now contain more than one reroute, it is no longer practical to display Distance in the reroute label. Therefore, the Distance checkbox shall be removed from the Display Parameters section of the Reroute Information dialog box.

Create Reroute Dialog Box

When the **Reroutes>Create Reroute** menu option is selected, the TSD shall display the Create Reroute dialog box. This dialog box, which is shown in figure 1.1, will allow the user to create a new reroute set. When the TSD displays the Create Reroute dialog box, the dialog box shall show the default preferences that the user has specified for the Color, Display Parameters, Class of Reroute, Type of Reroute, Show Route and, if applicable, Message Type and Composite Advisory. All of the text fields and grids shall be empty. The treeview control shall be populated with Play Categories (Parent Nodes) and Play Names (child nodes). The Play Categories and corresponding Play Names will be read from the Master table of the Reroute database. All Play Categories that have a Category Active Flag value of 1 shall be included. All Play Names that have a Play Active Flag value of 1 shall be included.

Note: Since the Playbook categories and play names will only be changed once every 56 days, it might be more efficient for the TSD to somehow remember them rather than querying the database for them each time the Create Reroute dialog box is opened.

The keyboard focus shall be on the "Name" field

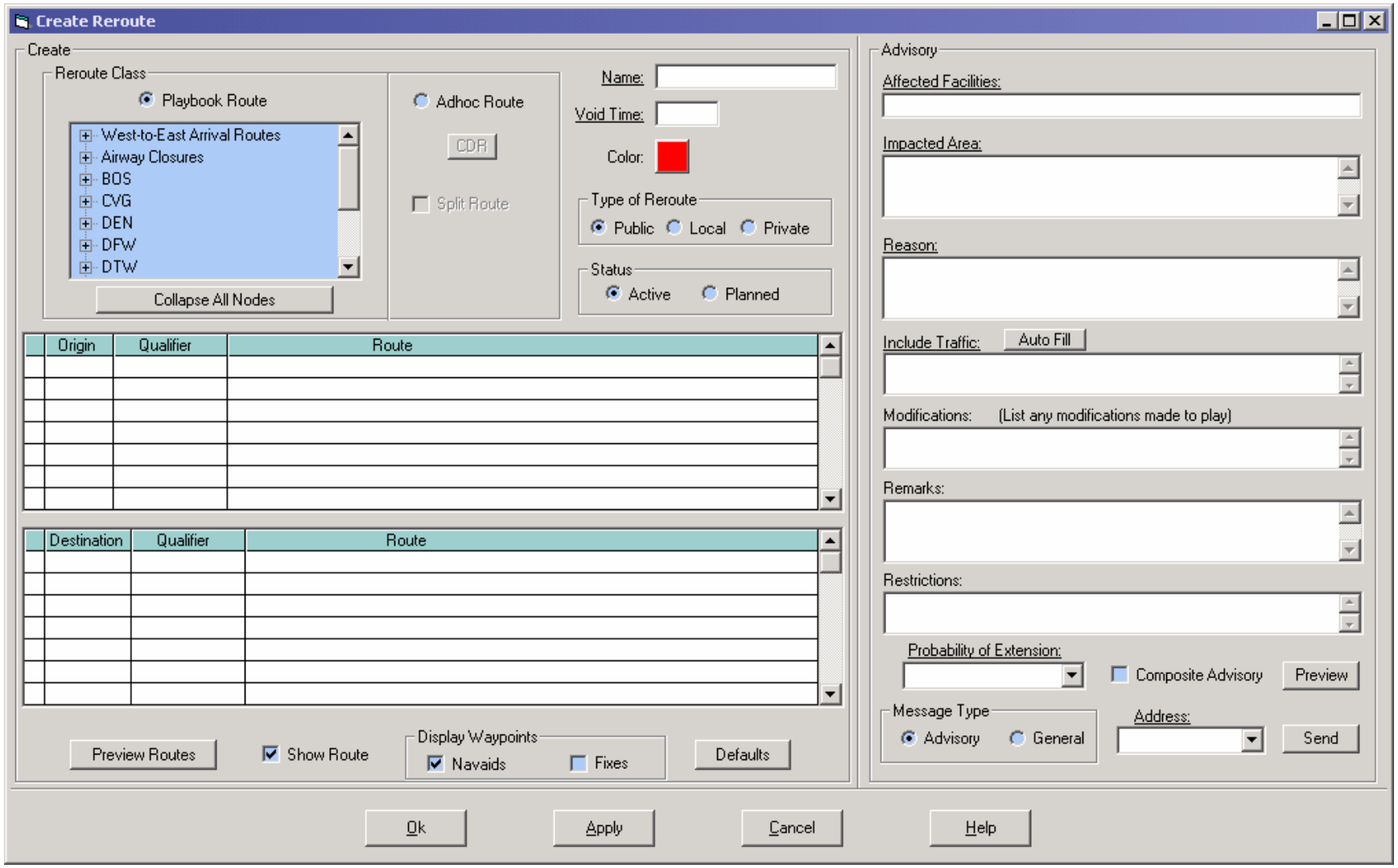

Figure 1.1 Create Reroute Dialog Box (Public Reroutes authorized)

- If **Playbook Route** is the default Reroute Class. (see figure 1.2)
  - The Playbook Route option button shall be selected.
  - The CDR button and the Split Route checkbox shall be grayed out.
  - The upper grid shall contain checkmark, Origin, Qualifier and Route fields.
  - The lower grid shall contain checkmark, Destination, Qualifier and Route fields.

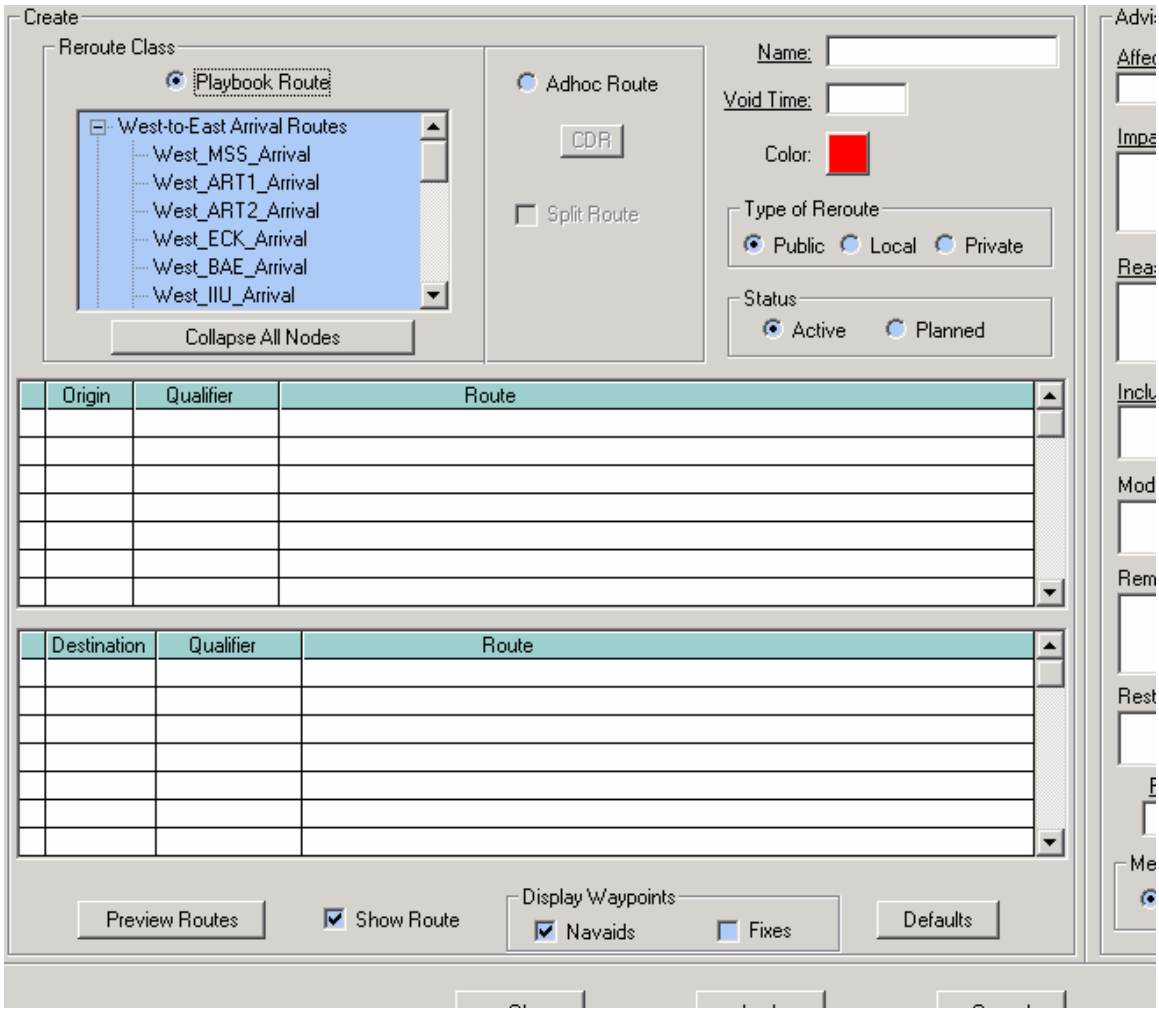

Figure 1.2 Playbook Route

- If **Adhoc Route** is the default Reroute Class. (see figure 1.3)
  - The Adhoc Route option button shall be selected.
  - The CDR button and the Split Route checkbox shall be enabled.
  - The Split Route checkbox shall be unchecked.
  - The upper grid shall contain Origin, Qualifier, Route and Destination fields.
  - The lower grid shall be grayed out.

- The treeview control shall be disabled.
- The Collapse All Nodes button shall be disabled.
- If Public Reroutes are authorized then the Modifications text box and label shall be disabled

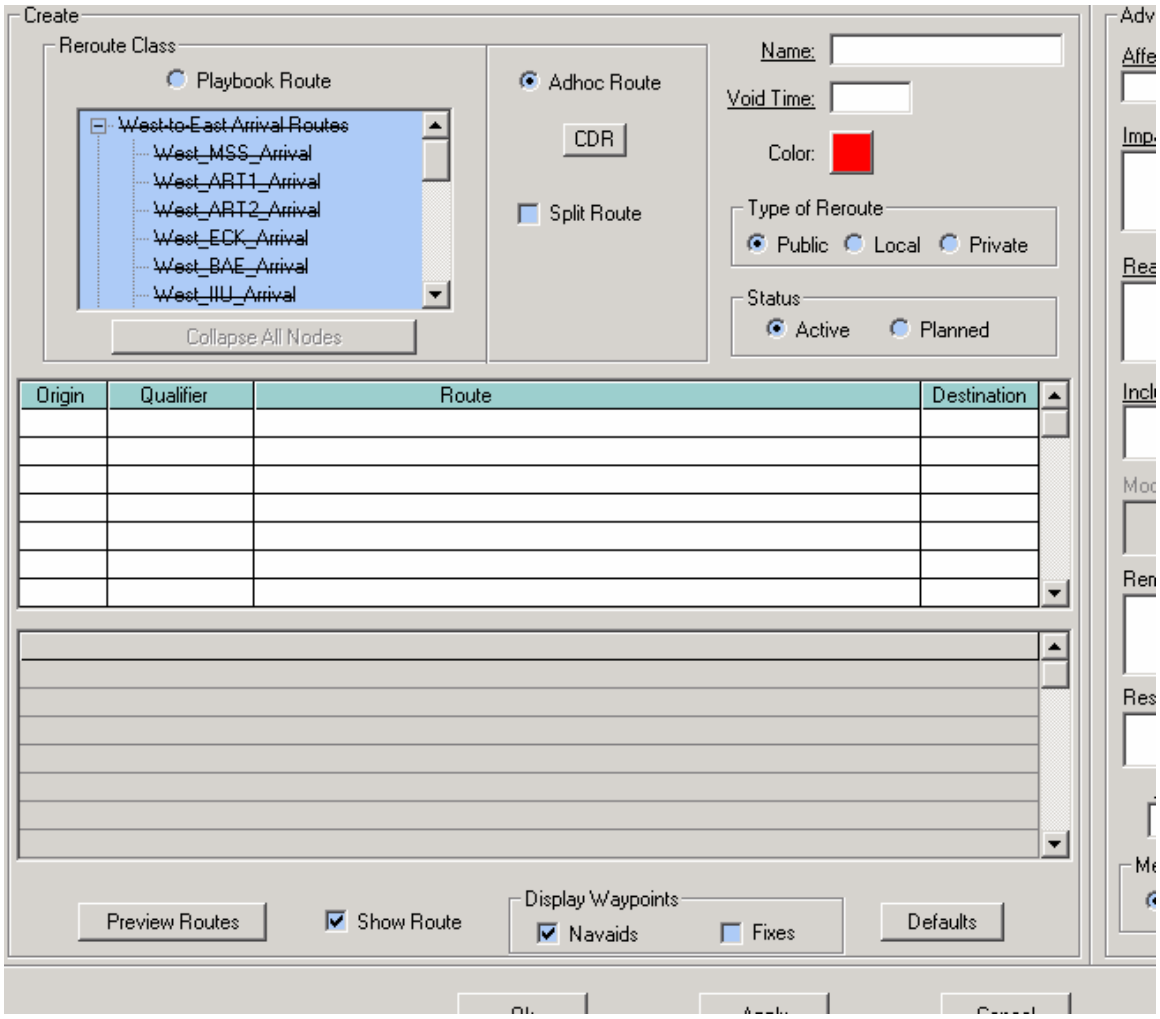

Figure 1.3 Adhoc Route

Create Reroute Dialog Box Functionality

General

For users that are not authorized to create Public reroutes, the “Public” option in the Type of Reroute section shall be grayed out. The create Reroute Dialog box consists of two main sections, the Create section and the Advisory section. Users that are not authorized to create Public reroutes are not authorized to send advisories, therefore, the Advisory section of the Create Reroute dialog box will not be shown to these users. See figure 1.4.

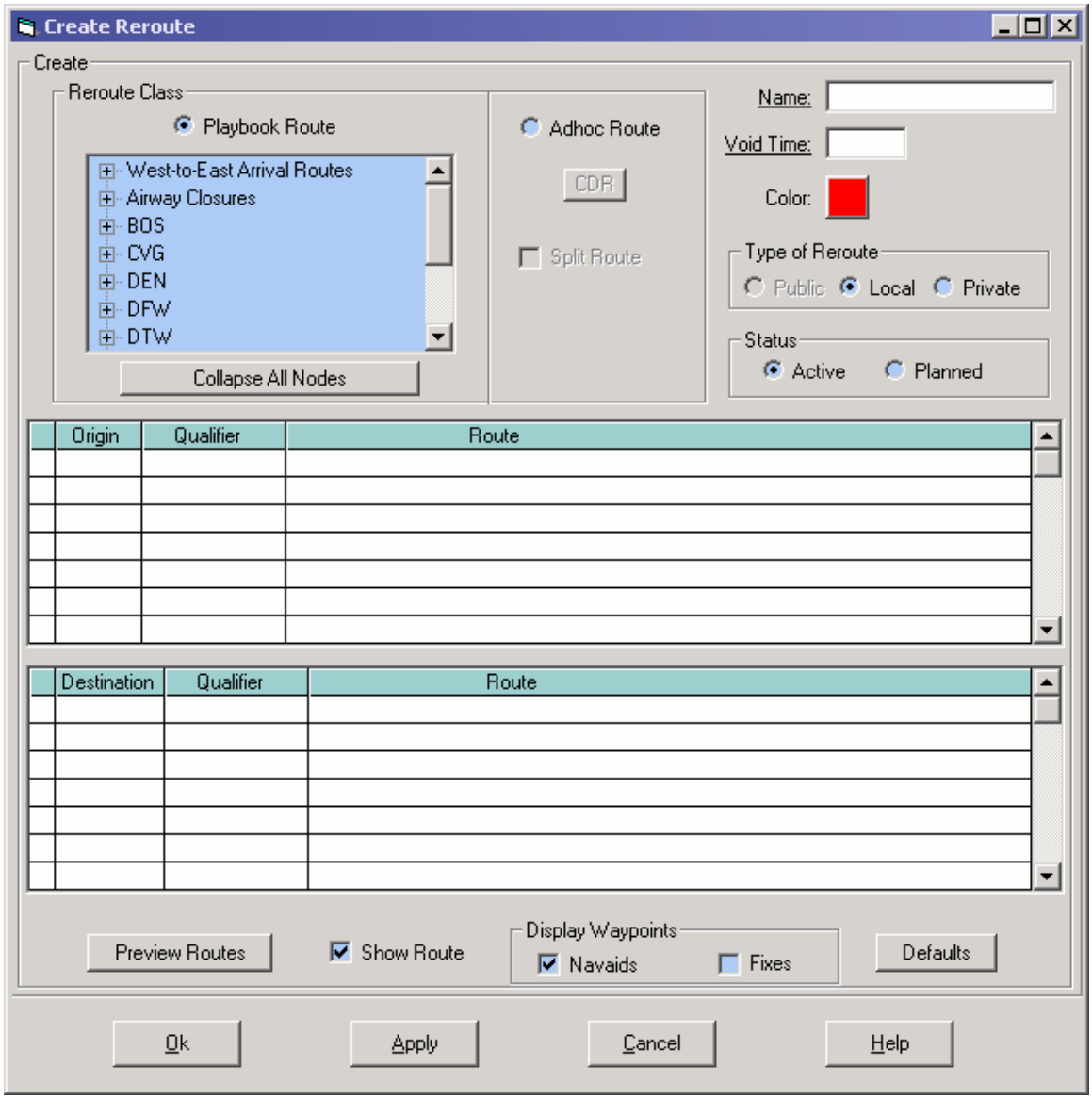

Figure 1.4 Create Reroute Dialog Box (Public Reroutes not authorized)

The **Treeview control** shall be sized to 15 “W” characters in width and 7 lines in height. The Treeview control shall scroll horizontally and vertically as necessary to display more characters or lines.

When the **Collapse All Nodes** button is pressed, the TSD shall collapse all child nodes of the treeview control; only Playbook categories (parent nodes) will then be visible.

The Create Reroute dialog box shall indicate required fields to the user. It should, if possible, do this by underlining the labels for these fields. If underlining is not possible, then some other method may be used – such as making the background of the label a

color different than the background color of the labels for optional fields and the background color of the dialog box.

The **Name** field shall accept 30 characters. This field shall be sized to display one line of at least 12 “W” characters. It shall scroll horizontally, if need, to enter or display additional characters. This field is a required field; there must be an entry in this field before the user is allowed to save the route set.

The **Void Time** field shall accept four numeric characters to specify the void time in UTC. This field is a required field; there must be an entry in this field there must be an entry in this field before the user is allowed to save the route set.

When the **Color** button is pressed, the TSD shall display the Color Palette from which the user can select one of the 36 colors.

The **Type of Reroute** functionality shall essentially remain the same as currently implemented. If Public Reroutes are authorized then the Public option shall be enabled, otherwise it should be disabled. If Public Reroutes are authorized and the Type of Reroute is set to Local or Private, the Create Reroute dialog box shall disable all parts of it’s Advisory section.

When the OK or Apply button of the Create Reroute dialog box is pressed, the TSD shall apply the value of the **Show Route** checkbox to the route set’s Show Route field in the Select Reroutes dialog box. **Does this need to be a field in the database?**

The **Display Waypoints** section will determine if the TSD shall display navaids and/or fixes when displaying the reroute.

When the **Defaults** button is pressed, the TSD shall display the Create Reroute Defaults dialog box. This dialog box shall allow the user to change their default preferences for the Create Reroute dialog box.

On startup, if Public routes are authorized, the TSD shall read the file specified by the Tsd*ExtensionProbabilityList entry in the TSD X application resource file and then use the contents of the specified file to populate the **Probability of Extension** list box. Initially, the list items should be:

- None
- Low
- Moderate
- High

On startup, if Public routes are authorized, the TSD shall read the file specified by the Tsd*EmailAddressList entry in the TSD X application resource file and then use the contents of the specified file to populate the **Address** list of the Create Reroute and Route Cancellation Message dialog boxes.

Create Reroute

The Create Reroute dialog box shall allow the user to create a Playbook or Adhoc route.

Playbook Route

Playbook plays are predefined sets of routes. Some plays consist of route definitions that describe each route completely from origin to destination. For example, ZBW CAM J547 SYR J29 ROD J39 IIU HEHAW3 BNA, describes a route from Boston Center (ZBW) to Nashville (BNA). Some plays consist of route definitions in which the routes have been split into origin and destination segments. The routes are split at a point that is common to each route. In the following example, the routes are split at MGM.

Origin	Route
ZME	MEI J4 MGM
ZHU	LCH J590 MGM

Destination	Route
BOS	MGM MGM048138 GRD J209 RDU J207 FKN J79 JFK ORW2 BOS
BWI	MGM J37 SPA J14 RIC OTT5 BWI
DCA	MGM J37 SPA J14 RIC IRONS4 DCA

This play describes routes from Memphis Center (ZME) to Boston (BOS), Baltimore (BWI) and Reagan National (DCA), and, from Houston Center (ZHU) to Boston (BOS), Baltimore (BWI) and Reagan National (DCA) as follows:

ZME MEI J4 MGM MGM048138 GRD J209 RDU J207 FKN J79 JFK ORW2 BOS
ZME MEI J4 MGM J37 SPA J14 RIC OTT5 BWI
ZME MEI J4 MGM J37 SPA J14 RIC IRONS4 DCA
ZHU LCH J590 MGM MGM048138 GRD J209 RDU J207 FKN J79 JFK ORW2 BOS
ZHU LCH J590 MGM J37 SPA J14 RIC OTT5 BWI
ZHU LCH J590 MGM J37 SPA J14 RIC IRONS4 DCA

If the user chooses to create a Playbook Route the Create Reroute dialog box shall behave as follows.

The Create Reroute dialog box shall allow the user to select a Playbook play from the treeview control. Once a play has been selected:

- The contents of the Play Name field of the Master table of the reroutes database shall be placed in the Name field of the Create Reroute dialog box.

- If Public reroutes are authorized, then the contents of the Affected Facilities field of the Master table of the reroutes database shall be placed in the Affected Facilities field of the Create Reroute dialog box.

- If Public reroutes are authorized, then the contents, if any, of the Impacted Flow field of the Master table of the reroutes database shall be placed in the Impacted Flow field of the Create Reroute dialog box.

- If Public reroutes are authorized, then the contents, if any, of the Include Traffic field of the Master table of the reroutes database shall be placed in the Include Traffic field of the Create Reroute dialog box.

- If Public reroutes are authorized, then the contents, if any, of the Remarks field of the Master table of the reroutes database shall be placed in the Remarks field of the Create Reroute dialog box.

The Create Reroute dialog box shall contain an upper and lower grid. Each grid shall contain 50 rows. Each grid shall be sized so that 7 rows are visible. Each grid shall allow the user to scroll vertically to access the remaining rows. The maximum number of characters per grid field will be described in a separate database definition document.

Once the user has selected a Playbook play, the play's routes shall be placed in the upper and lower grids as appropriate.

- If the play contains routes that have not been split into origin and destination segments, then only the upper grid will be used – the lower grid will be disabled. The upper grid will contain checkmark, Origin, Qualifier, Route and Destination fields.

- If the play contains routes that have been split into origin and destination segments, then the upper and lower grids will be used. The upper grid will contain checkmark, Origin, Qualifier and Route fields. The lower grid will contain checkmark, Destination, Qualifier and Route fields. The Master table of the Reroute database will contain a field that will allow the TSD to easily determine whether or not the play's routes are split.

Each row of the grid(s) shall contain a checkmark field. The checkmark field's value will be set to true (checked) by default. The checkmark field will be used to determine whether the route or route segment on that row is to be included in the play that is publicized for use.

Once the routes have been placed in the grid(s), the Create Reroute dialog box shall allow the user to edit the routes. The user shall be able to edit the routes by changing the text in any of the grid's text fields or by toggling the checkmark in the checkmark field. If the user toggles the checkmark field of a row to false (unchecked), the Create Reroute dialog box shall gray out the route or route segment on that row. The user shall also be able to create new routes and route segments by entering text into empty grid rows.

If the user presses the Preview Routes button the Create Reroute dialog box shall:

- If the play contains routes that have not been split into origin and destination segments:
    - For each route that has a checkmark field value of true (checked):
        - Validate the route.
        - If any of the routes are invalid, display an error dialog box and highlight the grid row of each invalid reroute.

- If the play contains routes that have been split into origin and destination segments, then for each route segment that has a checkmark field value of true (checked):
    - For each route segment that has a checkmark field value of true (checked):
        - Validate the route segment.
        - If any of the route segments are invalid, display an error dialog box and highlight the grid row of each invalid route segment.
        - If all of the route segments are valid:
            - For each origin segment in the upper grid, attempt to match the route with each destination route segment in the lower grid. The segments will be considered to match, if the last element of the origin's Route field matches the first element of the destination's Route field. The Reroute Preview dialog box (see figure 1.5) will then be displayed listing each segment that does not have a match and listing a full route description for each segment that does match. The full route description will be built by concatenating the Origin field and the Route field from each row of the upper grid with each matching Route and Destination field from the lower grid. When concatenating the route, list the point that is common to the origin and destination segment only once within the concatenated route. The following routes.

	Origin	Qualifier	Route
	ZMP		GEP J106 GRB
	ZSE		HLN J90 ABR J70 GEP J106 GRB
X	ZLC	NORTH FLOW	BOY J32 CZI J82 RAP J158 ABR J70 GEP J106
X	ZLC	MID FLOW	BOY J32 CZI J82 RAP J158 ABR J70 GEP J106 GRB
X	ZLC	SOUTH FLOW	BCE J100 EKR MBW RAP J158 ABR J70 GEP J106 GRB
	ZDV		RAP J158 ABR J70 GEP J106 GRB
	ZDV		RAP J158 ABR J70 GEP J106 GRB

	Destination	Qualifier	Route
X	BOS		GRB J522 ASP YEE ART ART ART141 GFL295 GFL ENE SCUPP SCUPP2
X	BWI		GRB J106 FNT DJB J162 MGW EMI3
X	CLE		GRB J106 FNT YQG GONNE2
X	DCA		GRB J106 FNT DJB J34 BUCKO BUCKO5
X	DTW		GRB MKG POLAR1
	EWR		GRB J522 ASP YEE ART ART SYR HNK SHAFF4
	IAD		GRB J106 FNT DJB J34 BUCKO JASEN2

would result in the following Reroute Preview

No matches found for the following:

ZLC BOY J32 CZI J82 RAP J158 ABR J70 GEP J106

Routes:

ZLC BOY J32 CZI J82 RAP J158 ABR J70 GEP J106 GRB J522 ASP YEE ART ART ART141 GFL295 GFL ENE SCUPP SCUPP2 BOS
ZLC BOY J32 CZI J82 RAP J158 ABR J70 GEP J106 GRB J106 FNT DJB J162 MGW EMI3 BWI
ZLC BOY J32 CZI J82 RAP J158 ABR J70 GEP J106 GRB J106 FNT YQG GONNE2 CLE
ZLC BOY J32 CZI J82 RAP J158 ABR J70 GEP J106 GRB J106 FNT DJB J34 BUCKO BUCKO5 DCA
ZLC BOY J32 CZI J82 RAP J158 ABR J70 GEP J106 GRB MKG POLAR1 DTW
ZLC BCE J100 EKR MBW RAP J158 ABR J70 GEP J106 GRB J522 ASP YEE ART ART ART141 GFL295 GFL ENE SCUPP SCUPP2 BOS
ZLC BCE J100 EKR MBW RAP J158 ABR J70 GEP J106 GRB J106 FNT DJB J162 MGW EMI3 BWI
ZLC BCE J100 EKR MBW RAP J158 ABR J70 GEP J106 GRB J106 FNT YQG GONNE2 CLE
ZLC BCE J100 EKR MBW RAP J158 ABR J70 GEP J106 GRB J106 FNT DJB J34 BUCKO BUCKO5 DCA
ZLC BCE J100 EKR MBW RAP J158 ABR J70 GEP J106 GRB MKG POLAR1 DTW

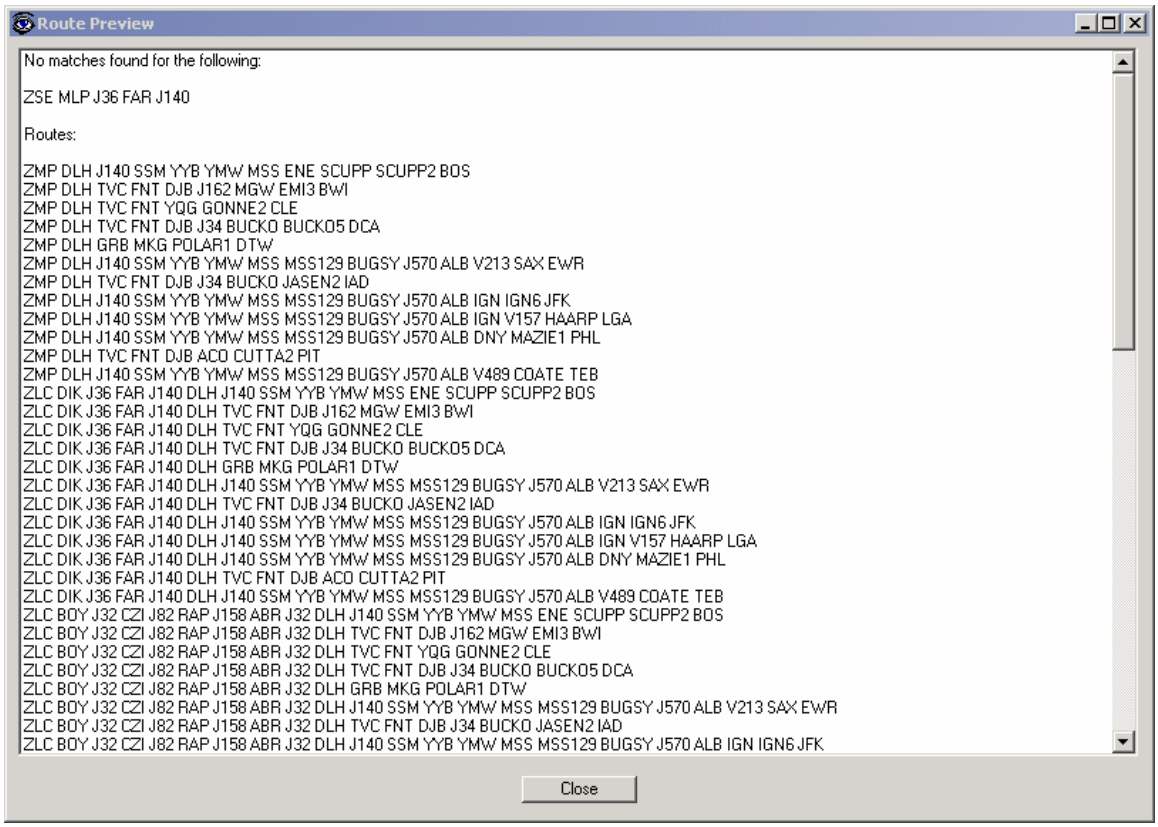

Figure 1.5 Route Preview Dialog Box

Adhoc Route

The create Reroute dialog box shall allow the user to create Adhoc Routes. The Adhoc Route function shall allow the specialist to create routes from scratch, to use CDR routes, or to use a combination of scratch built routes and CDR routes.

If the user chooses to create an Adhoc Route, the Create Reroute dialog box shall behave as follows:

The Split Route checkbox will allow the user to specify whether the Adhoc Routes that are created will consist of route definitions that describe each route completely from origin to destination (Split Route value is false – unchecked) or Adhoc Reroutes that are split into Origin and Destination segments (Split Route value is true – checked).

If Split Route is false, then the upper grid shall consist of Origin, Qualifier, Route and Destination fields. The lower grid will be disabled.

If Split Route is true, then the upper grid shall consist of Origin, Qualifier, and Route fields. The lower grid shall consist of Destination, Qualifier and Route fields.

The user shall be able to create route definitions by entering text into any of the grid's text fields.

The user shall be able to create route definitions by selecting and pasting CDR routes. The TSD shall allow the user to query the RMT (formerly known as CDR) database and to then select CDRs from the CDR Query Results dialog box for pasting into the create Reroutes dialog box. The user shall be allowed to perform this query, select, paste sequence as many times as the user wishes, or until each row of the Create Reroute Dialog box's upper grid is filled. This shall work as follows:

If Split Route is false, the CDR route definitions shall be pasted into the first empty rows of the upper grid. The contents of the CDR's Origin field shall be placed into the Origin field of the grid. The string CDR followed by a single space character followed by the contents of the CDR's Route Code field shall be placed into the Qualifier field of the grid. The contents of the CDR's Route field shall be placed into the Route field of the grid. The contents of the CDR's Destination field shall be placed into the Destination field of the grid.

If Split Route is true, the CDR route definitions shall be pasted into the first empty rows of the upper grid. The contents of the CDR's Origin field shall be placed into the Origin field of the grid. The string CDR followed by a single space character followed by the contents of the CDR's Route Code field shall be placed into the Qualifier field of the grid. The contents of the CDR's Destination field shall be enclosed in square brackets [], concatenated to the end of the Route field, and then placed into the Route field of the grid.

Note: Does TSD need the "K" removed from Origin and Destination?

Examples:

CDR:

Route Code	Origin	Route	Destination
DFWABQ0P	KDFW	WORTH3 TXO MIERA2 KABQ	KABQ

Upper Grid, Split Route is False:

Origin	Qualifier	Route	Destination
KDFW	CDR DFWABQ0P	WORTH3 TXO MIERA2 KABQ	KABQ

Upper Grid, Split Route is True:

Origin	Qualifier	Route
KDFW	CDR DFWABQ0P	WORTH3 TXO MIERA2 KABQ [KABQ]

If the user presses the Preview Routes button the Create Reroute dialog box shall:

- If Split Route is false:
    - Validate each route (row).
    - If any of the routes are invalid, display an error dialog box and highlight the grid row of each invalid route.
- If Split Route is true:
    - Validate each route segment (row).
    - If any of the routes are invalid, display an error dialog box and highlight the grid row of each invalid route.
    - If all of the route segments are valid:
        - For each origin segment in the upper grid, attempt to match the route with each destination route segment in the lower grid. The segments will be considered to match, if the last element of the origin's Route field matches the first element of the destination's Route field. The Reroute Preview dialog box will then be displayed listing each segment that does not have a match and listing a full route description for each segment that does match. The full route description will be built by concatenating the Origin and Route fields from the upper grid segment with the matching Route and Destination fields from the lower grid segment. When concatenating the route, list the point that is common to the origin and destination segment only once within the concatenated route.

Advisory and General Messages

The Create Reroute dialog box shall allow authorized users to create and send an Advisory or General Message.

The Create Reroute dialog box shall allow authorized users to enter and/or edit text in the Affected Facilities, Impacted Area, Reason, Include Traffic, Modifications (if Playbook play), Remarks, and Restrictions fields of the dialog box.

The **Affected Facilities** field shall accept 100 characters. This field shall be sized to display one line of at least 30 "W" characters. It shall scroll horizontally, if needed, to enter or display additional characters. This field is a required field; there must be an entry in this field before the user is allowed to send a message.

The **Impacted Area** field shall accept 512 characters. This field shall be sized to display at least three lines of at least 30 "W" characters per line. It shall scroll vertically, if needed, to enter or display additional lines of characters. This field is a required field; there must be an entry in this field before the user is allowed to send a message.

The **Reason** field shall accept 1024 characters. This field shall be sized to display at least three lines of at least 30 “W” characters per line. It shall scroll vertically, if needed, to enter or display additional lines of characters. This field is a required field; there must be an entry in this field before the user is allowed to send a message.

The **Include Traffic** field shall accept 512 characters. This field shall be sized to display at least two lines of at least 30 “W” characters per line. It shall scroll vertically, if needed, to enter or display additional lines of characters. This field is a required field; there must be an entry in this field before the user is allowed to send a message.

The **Modifications** field shall accept 1024 characters. This field shall be sized to display at least two lines of at least 30 “W” characters per line. It shall scroll vertically, if needed, to enter or display additional lines of characters.

The **Remarks** field shall accept 1024 characters. This field shall be sized to display at least three lines of at least 30 “W” characters per line. It shall scroll vertically, if needed, to enter or display additional lines of characters.

The **Restrictions** field shall accept 1024 characters. This field shall be sized to display at least two lines of at least 30 “W” characters per line. It shall scroll vertically, if needed, to enter or display additional lines of characters.

The Affected Facilities, Impacted Area, Reason, Include Traffic, Probability of Extension, and Address fields are required fields; there must be entries in these fields before sending a message will be allowed. The Create Reroute dialog box shall indicate required fields to the user. It should, if possible, do this by underlining the labels for these fields. If underlining is not possible, then some other method may be used – such as making the background of the label a color different than the background color of the labels for optional fields and the background color of the dialog box.

The Modifications, Remarks and Restriction fields are optional; the user is not required to make entries in these fields.

When the “Auto Fill” button is pressed the Create Reroute dialog box shall replace the contents of the Include Traffic field of the dialog box with the string:

ROUTE <Origin> DEPARTURES TO <Destination> VIA…

It shall replace the <Origin> and the <Destination> variables as follows:

- If the Reroute Class is Playbook then the Create Reroute dialog box shall create sub strings as follows. For each route segment that has a checkmark field value of true (checked) the Create Reroute dialog box shall concatenate the Origin field entries, eliminating duplicates, and separating each entry with a forward slash (/). This string will replace the <Origin> variable. For each route segment that has a checkmark field value of true (checked) the Create Reroute dialog box shall

concatenate the Destination field entries, eliminating duplicates, and separating each entry with a forward slash (/). This string will replace the <Destination> variable.

- If the Reroute Class is Adhoc then the Create Reroute dialog box shall create sub strings as follows. For each route segment the Create Reroute dialog box shall concatenate the Origin field entries, eliminating duplicates, and separating each entry with a forward slash (/). This string will replace the <Origin> variable. For each route segment the Create Reroute dialog box shall concatenate the Destination field entries, eliminating duplicates, and separating each entry with a forward slash (/). This string will replace the <Destination> variable.

Example:

Origin	Route
ZMP	GEP J106 GRB
ZLC	MLS J90 ABR J70 GEP J106 GRB
ZLC	BOY J32 CZI J82 RAP J158 ABR J70 GEP J106 GRB

Destination	Route
BOS	GRB J106 FNT DJB J34 BUCKO BUCKO5 DCA ART141 GFL295 GFL ENE SCUPP BOS
BWI	GRB J106 FNT DJB J34 BUCKO BUCKO5 DCA
DCA	GRB J106 FNT DJB J162 MGW EMI3 BWI

Would result in ZMP/ZLC for the <Origin> sub string and BOS/BWI/DCA for the <Destination> sub string. Replacing the variables with the sub strings would result in:

ROUTE ZMP/ZLC DEPARTURES TO BOS/BWI/DCA VIA…

Message Templates

The Master table of the Reroute database will store templates to be used by the Create Reroute dialog box when creating a message.

The Create Reroute dialog box shall determine which message template it shall use as follows:

- If the Reroute Class is Playbook then the Create Reroute dialog shall use the template in the Message Template table that the Message Template field of the Master table points to.

- If the Reroute Class is Adhoc and the routes have been split into origin and destination segments and CDR routes have not been included, the Create Reroute dialog box shall use the template from the Message Template table of the Reroute database that has a Message Template field with a value of 1. (Template 1)

- If the Reroute Class is Adhoc and the routes have not been split into origin and destination segments and CDR routes have not been included, the Create Reroute dialog box shall use the template from the Message Template table of the Reroute database that has a Message Template field with a value of 2. (Template 2)

- If the Reroute Class is Adhoc and the routes have been split into origin and destination segments and CDR routes have been included, the Create Reroute dialog box shall use the template from the Message Template table of the Reroute database that has a Message Template field with a value of 3. (Template 3)

- If the Reroute Class is Adhoc and the routes have not been split into origin and destination segments and CDR routes have been included, the Create Reroute dialog box shall use the template from the Message Template table of the Reroute database that has a Message Template field with a value of 4. (Template 4)

DCC <date> REROUTE <Message Type>
IMPACTED AREA: <Impacted Area>
REASON: <Reason>
ASSIGNED REROUTE: <Include Traffic>

FROM:
<Routes from upper grid>

TO:
<Routes from lower grid>

FACILITIES INCLUDED: < Affected Facilities >
VALID UNTIL: <Void Time>
PROBABILITY OF EXTENSION: <Probability of Extension>
REMARKS: <Remarks>
ASSOCIATED RESTRICTIONS: <Restrictions>
<Current Date and Time>-<Void Date and Time>

Template 1

DCC <date> REROUTE <Message Type>
IMPACTED AREA: <Impacted Area>
REASON: <Reason>
ASSIGNED REROUTE: <Include Traffic>

<Routes from upper grid>

FACILITIES INCLUDED: <Affected Facilities>
VALID UNTIL: <Void Time>
PROBABILITY OF EXTENSION: <Probability of Extension>
REMARKS: <Remarks>
ASSOCIATED RESTRICTIONS: <Restrictions>
<Current Date and Time>-<Void Date and Time>

Template 2

DCC <date> REROUTE <Message Type>
IMPACTED AREA: <Impacted Area>
REASON: <Reason>
ASSIGNED REROUTE: <Include Traffic>

CDR ROUTES:
<CDR routes from upper grid>

OTHER ROUTES:
FROM:
<Routes from upper grid>

TO:
<Routes from lower grid>

FACILITIES INCLUDED: < Affected Facilities >
VALID UNTIL: <Void Time>
PROBABILITY OF EXTENSION: <Probability of Extension>
REMARKS: <Remarks>
ASSOCIATED RESTRICTIONS: <Restrictions>
<Current Date and Time>-<Void Date and Time>

Template 3

DCC <date> REROUTE <Message Type>
IMPACTED AREA: <Impacted Area>
REASON: <Reason>
ASSIGNED REROUTE: <Include Traffic>

CDR ROUTES:
<CDR routes from upper grid>

OTHER ROUTES:

<Routes from upper grid>

FACILITIES INCLUDED: <Affected Facilities>
VALID UNTIL: <Void Time>
PROBABILITY OF EXTENSION: <Probability of Extension>
REMARKS: <Remarks>
ASSOCIATED RESTRICTIONS: <Restrictions>
<Current Date and Time>-<Void Date and Time>

Template 4

The templates consist of static text and variables. The variables are enclosed within 'less than' (<) and 'greater than' (>) symbols. The templates are subject to change, therefore the Create Reroute dialog box should not expect to find any particular static text string.

Message Template Variables

<date>: The Create Reroute dialog box shall replace the <date> variable with the current UTC date in the following format: mm/dd/yy

Where mm is the current month, dd is the current day of the month, and yy is the last two digits of the current year.

<Message Type>: The Create Reroute dialog box shall replace the <Message Type> variable with either the string ADVISORY or the string MESSAGE as appropriate. The setting of the Message Type option button in the Create Reroute dialog shall determine which string is appropriate. The string ADVISORY will be used if the option button is set to Advisory, the string MESSAGE will be used of the option button is set to General.

<Play Name>: The Create Reroute dialog box shall, if present, replace the <Play Name> variable with the Play Name as read from the Reroute database. Do not use the name found in the Name field of the Create Reroute dialog box.

<Impacted Area>: The Create Reroute dialog box shall replace the <Impacted Area> variable with the contents of the Impacted Area field of the Create Reroute dialog box.

<Reason>: The Create Reroute dialog box shall replace the <Reason> variable with the contents of the Reason field of the Create Reroute dialog box.

<Include Traffic>: The Create Reroute dialog box shall replace the <Include Traffic> variable with the contents of the Include Traffic field of the Create Reroute dialog box.

<CDR Routes>: Reserved for future use.

<CDR routes from upper grid>: The Create Reroute dialog box shall replace the <CDR routes from upper grid> variable with a string that it creates from each entry of the upper grid that has a Qualifier field that starts with the string CDR. It shall create the string as follows: Remove the brackets [] from the last element of the Route field and then concatenate the contents of the Origin field, Qualifier field, and Route fields. Each string, after creation, shall be placed on a separate line in the advisory.

<Routes from upper grid>: The Create Reroute dialog box shall replace the <Routes from upper grid> variable with the contents of the upper grid of the Create Reroute dialog box as follows:

- If Reroute Class is Playbook and Split Route is False, then the Create Reroute dialog shall create strings from each entry in the upper grid that has a checkmark field value of true. It shall create each string by concatenating the contents of the Origin, Qualifier, Route and Destination fields. It shall place three periods between the Origin and Route or the Qualifier and Route, as appropriate. It shall only include the Qualifier field if the field does not contain an empty string and shall then place the contents of the Qualifier field within parentheses.

  Example:

Origin	**Qualifier**	**Route**	**Destination**
ZLC	NORTH FLOW	ABR J70 GEP J106 GRB	DTW
ZDV		ABR J70 GEP J106 GRB	BOS

  Becomes: ZLC (NORTH FLOW)…ABR J70 GEP J106 GRB DTW
  ZDV…ABR J70 GEP J106 GRB BOS

- If Reroute Class is Playbook and Split Route is True, then the Create Reroute dialog shall create strings from each entry in the upper grid that has a checkmark field value of true. It shall create each string by concatenating the contents of the Origin, Qualifier, and Route fields. It shall place three periods between the Origin and Route or the Qualifier and Route, as appropriate. It shall only include the Qualifier field if the field does not contain an empty string and shall then place the contents of the Qualifier field within parentheses.

Example:

Origin	Qualifier	Route
ZLC	NORTH FLOW	ABR J70 GEP J106 GRB
ZDV		ABR J70 GEP J106 GRB

Becomes: ZLC (NORTH FLOW)…ABR J70 GEP J106 GRB
ZDV…ABR J70 GEP J106 GRB

- If Reroute Class is Adhoc and Split Route is False, then the Create Reroute dialog shall create strings from each entry in the upper grid that does not have a Qualifier field that begins with the string CDR. It shall create each string by concatenating the contents of the Origin, Qualifier, Route and Destination fields. It shall place three periods between the Origin and Route or the Qualifier and Route, as appropriate. It shall only include the Qualifier field if the field does not contain an empty string and shall then place the contents of the Qualifier field within parentheses.

Example:

Origin	Qualifier	Route	Destination
ZLC	NORTH FLOW	ABR J70 GEP J106 GRB	DTW
ZDV		ABR J70 GEP J106 GRB	BOS

Becomes: ZLC (NORTH FLOW)…ABR J70 GEP J106 GRB DTW
ZDV…ABR J70 GEP J106 GRB BOS

- If Reroute Class is Adhoc and Split Route is True, then the Create Reroute dialog shall create strings from each entry in the upper grid that does not have a Qualifier field that begins with the string CDR. It shall create each string by concatenating the contents of the Origin, Qualifier, and Route fields. It shall place three periods between the Origin and Route or the Qualifier and Route, as appropriate. It shall only include the Qualifier field if the field does not contain an empty string and shall then place the contents of the Qualifier field within parentheses.

Example:

Origin	Qualifier	Route
ZLC	NORTH FLOW	ABR J70 GEP J106 GRB
ZDV		ABR J70 GEP J106 GRB

Becomes: ZLC (NORTH FLOW)…ABR J70 GEP J106 GRB
ZDV…ABR J70 GEP J106 GRB

<Routes from lower grid>: The Create Reroute dialog box shall, if present, replace the <Routes from lower grid> variable with the contents of the lower grid of the Create Reroute dialog box as follows:

- If Reroute Class is Playbook, then the Create Reroute dialog shall create strings from each entry in the lower grid that has a checkmark field value of true. It shall create each string by concatenating the contents of the Destination, Qualifier, and Route fields. It shall place three periods between the Destination and Route or the Qualifier and Route, as appropriate. It shall only include the Qualifier field if the field does not contain an empty string and shall then place the contents of the Qualifier field within parentheses.

  Example:

Destination	Qualifier	Route
DTW	PRIMARY	GRB MKG POLAR1 DTW
DTW	ALTERNATE	CAP J80 VHP FWA MIZAR3 DTW
CLE		GRB J106 FNT YQG GONNE2 CLE

  Becomes: DTW (PRIMARY)…GRB MKG POLAR1 DTW
  DTW (ALTERNATE)…CAP J80 VHP FWA MIZAR3 DTW
  CLE …GRB J106 FNT YQG GONNE2 CLE

- If Reroute Class is Adhoc, then the Create Reroute dialog shall create strings from each entry in the lower grid. It shall create each string by concatenating the contents of the Destination, Qualifier, and Route fields. It shall place three periods between the Destination and Route or the Qualifier and Route, as appropriate. It shall only include the Qualifier field if the field does not contain an empty string and shall then place the contents of the Qualifier field within parentheses.

  Example:

Destination	Qualifier	Route
DTW	PRIMARY	GRB MKG POLAR1 DTW
DTW	ALTERNATE	CAP J80 VHP FWA MIZAR3 DTW
CLE		GRB J106 FNT YQG GONNE2 CLE

  Becomes: DTW (PRIMARY)…GRB MKG POLAR1 DTW
  DTW (ALTERNATE)…CAP J80 VHP FWA MIZAR3 DTW
  CLE …GRB J106 FNT YQG GONNE2 CLE

<Modifications>: The Create Reroute dialog box shall, if present, replace the <Modifications> variable with the contents of the Modifications field of the Create Reroute dialog box. If trimming leading and trailing spaces from the contents of the Modifications field results in an empty string, then the Create Reroute dialog box shall replace the <Modifications> variable with the string: NONE

<Affected Facilities>: The Create Reroute dialog box shall replace the <Affected Facilities> variable with the contents of the Affected Facilities field of the Create Reroute dialog box.

<Void Time>: The Create Reroute dialog box shall replace the <Void Time> variable with the contents of the Void Time field of the Create Reroute dialog box.

<Probability of Extension>: The Create Reroute dialog box shall replace the <Probability of Extension> variable with the selected item in the Probability of Extension list box of the Create Reroute dialog box.

<Remarks>: The Create Reroute dialog box shall replace the <Remarks> variable with the contents of the Remarks field of the Create Reroute dialog box. If trimming leading and trailing spaces from the contents of the Remarks field results in an empty string, then the Create Reroute dialog box shall replace the <Remarks> variable with the string: NONE

<Restrictions>: The Create Reroute dialog box shall replace the <Restrictions> variable with the contents of the Restrictions field of the Create Reroute dialog box. If trimming leading and trailing spaces from the contents of the Restrictions field results in an empty string, then the Create Reroute dialog box shall replace the <Restrictions> variable with the string: NONE

<Current Date and Time>: The Create Reroute dialog box shall replace the <Current Date and Time> variable with the current UTC day and time in the following format: ddhhmm

Where dd is the current day, hh is the current hour, and mm is the current minute of the current hour.

<Void Date and Time>: The Create Reroute dialog box shall replace the <Void Date and Time> variable with the void day and time in UTC. The void day and time shall be calculated using the Void Time field of the Create Reroute dialog box. The format for <Void Date and Time> shall be: ddhhmm

Where dd is the day, hh is the hour, and mm is the minute of the hour that the route set will become void.

Preview

When the user presses the Preview button, the Create Reroute dialog shall display the Message Preview dialog box. The Message Preview dialog box will show the user a read-only preview of the message that has been built using the appropriate message template and substituting all variables in the template with appropriate values.

Send

Human-Readable Message

When the user presses the Send button, the Create Reroute dialog shall invoke ETMS Email and send the message that has been built using the appropriate template and substituting all variables with the appropriate values. The Create Reroute dialog shall also save a copy of the message (do not save the composite message block) to the Message field of the In-use table of the Reroute database. The contents of the Message field will allow the Create Reroute dialog to build Composite Advisories.

The Create Reroute dialog will use the path specified by the Tsd*PathToEmail entry in the TSD X application resource file to invoke ETMS Email as follows:

Email [-ag group] [-t type] [-m message]

-ag group - specifies address group to use

-t type - specifies the message type. A message can be of type adv or gen.

-m message - specifies a message or file to send. A message must be enclosed within quotes. A file must start with a /

The Create Reroute dialog shall use the selection made in the Address list box for the –ag argument and the setting of the Message Type radio button for the –t argument. The –m argument shall be set as follows:

- If the value of the Composite Advisory checkbox is False (unchecked) the Create Reroute dialog shall build a message by using the appropriate Message Template and replacing all of the variables in the template with the appropriate values. It shall then pass this message to ETMS Email using the –t argument.

- If the value of the Composite Advisory checkbox is True (checked) the Create Reroute dialog shall build a message as follows

    - Using the appropriate Message Template replace all of the variables in the template with the appropriate values.
    - Append a blank line to the bottom of the message.
    - Append the string SUMMARY OF ACTIVE REROUTES.
    - Append a line of asterisks.
    - Append a blank line.
    - Append the composite message block. The composite message block shall be constructed as follows:

- Query the In-use table of the Reroute database for the contents of the Reroute Name and Message fields for each record that has an Active Flag with a value of 1 and a Type of Route of Public, ordering the records by Void Time.
- Using the records returned by the query build the message block:
  - Append the contents of the Reroute Name field.
  - Append a blank line.
  - Append the contents of the Message field.
  - Append a blank line.
  - Repeat this sequence for each record that was returned.

It shall then pass this message to ETMS Email using the –t argument.

After passing the message to ETMS Email, the TSD shall parse the output from ETMS Email and check that the message was sent successfully, and if not, what errors occurred. The TSD shall display a message box indicating either that the message was sent successfully, or to report any errors.

Machine-Readable Message

To be determined.

Saving Routes

When the user presses the OK button to close the Create Reroute dialog box, the contents of the dialog box shall be saved to the In-use table of the Reroute database.

- Reroute Name – The contents of the Name field of the dialog box shall be saved to the Reroute Name field of the database.
- Void Time – The contents of the Void Time field of the dialog box shall be saved to the Void Time field of the database.
- Color – The color as selected from the Color Palette shall be saved to the Color field of the database
- Type of Route – The value of the Type of Reroute option button shall be saved to the Type of Route field of the database.
- Status – The value of the Status option button shall be saved to the Status field of the database.
- Impacted Area – The contents of the Impacted Area field of the dialog box shall be saved to the Impacted Area of the database.
- Affected Facilities – The contents of the Affected Facilities field of the dialog box shall be saved to the Affected Facilities field of the database.
- Include Traffic – The contents of the Include Traffic field of the dialog box shall be saved to the Include Traffic field of the database.
- Reason – The contents of the Reason field of the dialog box shall be saved to the Reason field of the database.

- Modifications – The contents of the Modifications field of the dialog box shall be saved to the Modifications field of the database. . If trimming leading and trailing spaces from the contents of the Modifications field results in an empty string, then the string NONE will be stored in the database.
- Remarks – The contents of the Remarks field of the dialog box shall be saved to the Remarks field of the database. If trimming leading and trailing spaces from the contents of the Remarks field results in an empty string, then the string NONE will be stored in the database.
- Restrictions – The contents of the Restrictions field of the dialog box shall be stored in the Restrictions filed of the database. If trimming leading and trailing spaces from the contents of the Restrictions field results in an empty string, then the string NONE will be stored in the database.
- Probability of Extension – The value of the selected item in the Probability of Extension list box shall be stored on the Probability of Extension field of the database.
- Reroute Class – The value of the Reroute Class option button shall be saved to the Reroute Class field of the database.
- Play Name – If the Reroute Class of the route set being saved is Playbook, then the original Play Name as read from the Master table of the Reroute database, the In-use table if the route is being saved after editing, shall be saved to the Play Name field of the database. Do not use the contents of the Name field of the dialog for this.
- Split Route Flag – If the Reroute Class of the route set being saved is Playbook, then the original value of the Split Route Flag field as read from the Master table of the Reroute database, or the In-use table if the route is being saved after editing, shall be saved to the Split Route Flag field of the In-use table of the database. If the Reroute Class of the route set being saved is Adhoc, then the value of the Split Route checkbox of the dialog box shall be saved to the Split Route Flag field of the database.
- Origin Segments – Each Route from the upper grid shall be saved to the database. For each route in the upper grid:
    - Use1 – If the Reroute Class of the route being saved is Playbook, the value of the Checkmark field shall be saved in the Use1 field of the database.
    - Origin – The contents of the Origin field shall be saved to the Origin field of the database.
    - Qualifier – The contents of the Qualifier field shall be saved to the Qualifier1 field of the database.
    - Route – The contents of the Route field shall be saved to the Route1 field of the database. If the Reroute Class is Playbook, then all routes should be saved, even those that have a Use1 value of False. This will allow the TSD to make those route segments available when the user recalls the reroute for editing.
    - Destination – If Split Route is False, then the contents of the Destination field shall be saved to the Destination1 field of the database.
    - PV Waypoints – The validated waypoints for the route may be stored in the PV Waypoints1 field of the database.

- Destination Segments – If the Split Route Flag is True then each route from the lower grid shall be saved to the database. For each route in the lower grid:
    - Use – If the Reroute Class of the route being saved is Playbook, the value of the Checkmark field shall be saved in the Use2 field of the database.
    - Qualifier – The contents of the Qualifier field shall be saved to the Qualifier2 field of the database.
    - Route – The contents of the Route field shall be saved to the Route2 field of the database. If the Reroute Class is Playbook, then all routes should be saved, even those that have a Use2 value of False. This will allow the TSD to make those route segments available when the user recalls the reroute for editing.
    - Destination – The contents of the Destination field shall be saved to the Destination field of the database.
    - PV Waypoints – The validated waypoints for the route may be stored in the PV Waypoints2 field of the database.
    - Mandatory Flag - If the Reroute Class of the route being saved is Playbook, the original value of the Mandatory Flag as taken from the Master table of the Reroute database, or the In-use table if the route is being saved after editing, shall be saved to the Mandatory Flag field of the In-use table.

Editing Saved Routes

When a route set is selected in the Select Reroute dialog box for editing, the TSD shall display the Create Reroute dialog box, retrieve the route set from the In-use database and set the fields and controls of the Create Reroute dialog box appropriately.

- Name – The contents of the Reroute Name field shall be placed in the Name field of the dialog box.
- Void Time – The contents of the Void Time field shall be placed in the Void Time field of dialog box.
- Color – The color button of the dialog box shall be set to the color specified in the Color field of the database
- Type of Route – The value of the Type of Reroute option button shall be set to the value of the Type of Route field of the database.
- Status – The value of the Status option button shall be set to the value of the Status field of the database.
- Impacted Area – The contents of the Impacted Area field of the dialog box shall be set to the contents of the Impacted Area of the database.
- Affected Facilities – The contents of the Affected Facilities field of the dialog box shall be set to the contents of Affected Facilities field of the database.
- Include Traffic – The contents of the Include Traffic field of the dialog box shall be set to the contents of Include Traffic field of the database.
- Reason – The contents of the Reason field of the dialog box shall be shall be set to the contents of Reason field of the database.

- Modifications – The contents of the Modifications field of the dialog box shall be shall be set to the contents of Modifications field of the database.
- Remarks – The contents of the Remarks field of the dialog box shall shall be set to the contents of Remarks field of the database
- Restrictions – The contents of the Restrictions field of the dialog box shall be set to the contents of Restrictions filed of the database.
- Probability of Extension – The value of the selected item in the Probability of Extension list box shall be set to the value of the Probability of Extension field of the database.
- Reroute Class – The value of the Reroute Class option button shall be set to the value of the Reroute Class field of the database.
- Play Name – If the Reroute Class of the route set being retrieved is Playbook, then the original Play Name
- Split Route Flag - If the Reroute Class of the route set being saved is Adhoc, the value of the Split Route checkbox of the dialog box shall be set to the value of the Split Route Flag field of the database.
- Origin Segments – The upper grid shall be filled with each route that is retrieved from the database. For each route:
    - Use1 – If the Reroute Class of the route being retrieved is Playbook, the value of the Checkmark field shall be set to the value of the Use1 field of the database.
    - Origin – The contents of the Origin field shall be set to the contents of the Origin field of the database.
    - Route – The contents of the Route field shall be set to the contents of the Route1 field of the database.
    - Destination – If Split Route is False, then the contents of the Destination field shall be set to the contents of the Destination1 field of the database.
    - Qualifier – The contents of the Qualifier field shall be set to the contents of the Qualifier1 field of the database.

- Destination Segments – If the Split Route Flag is True then the lower grid shall be filled with each route retrieved from the database. For each route:
    - Use2 – If the Reroute Class of the route being retrieved is Playbook, the value of the Checkmark field shall be set to the value of the Use2 field of the database.
    - Destination – The contents of the Destination field be set to the contents of the Destination field of the database.
    - Qualifier – The contents of the Qualifier field shall be set to the contents of the Qualifier2 field of the database.
    - Route – The contents of the Route field shall be set to the contents of the Route2 field of the database.

Deleting a Saved Reroute

When a route set is selected in the Select Reroute dialog box for deletion, the TSD shall display a confirmation dialog box. If the user presses the Cancel button of the

Confirmation dialog box, the TSD shall close the Confirmation dialog box and take no other action. If the user presses the OK button of the Confirmation dialog box then the TSD shall set that the value of the Active Flag field, of the routes record in the In-use table, to 2 and remove it's entry from the Select Reroute dialog box. If the user is authorized to send messages, the TSD shall then display the Cancellation Message dialog box. The Cancellation Message dialog box will allow the user to send a message indicating that the route has been canceled.

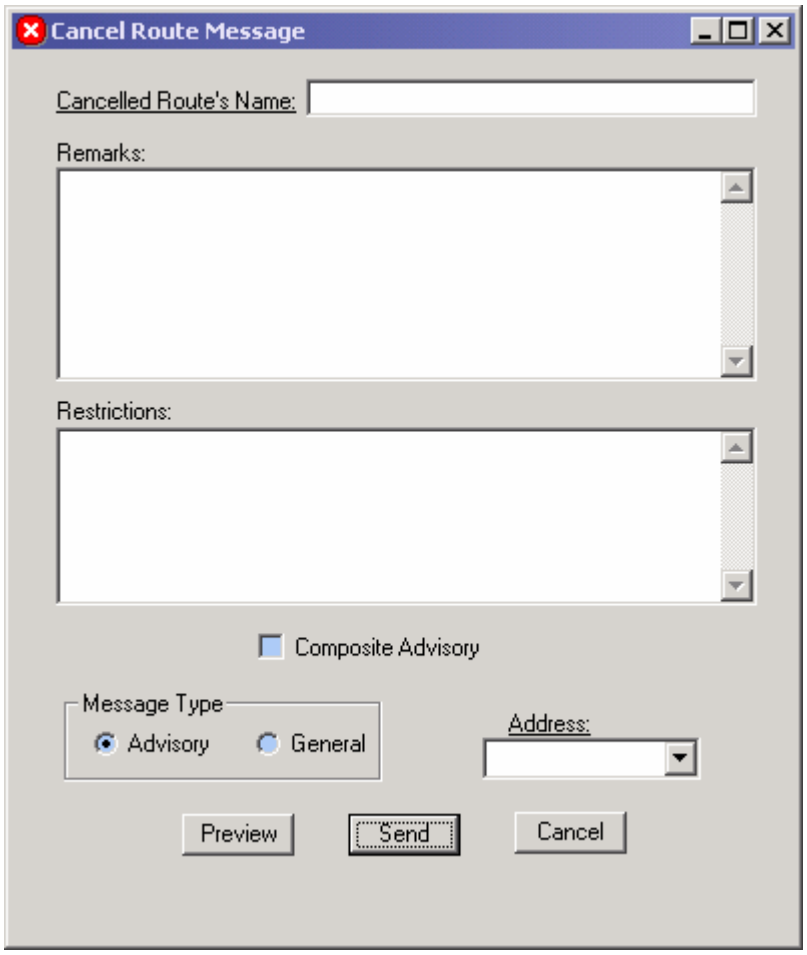

Figure 1.6 Cancellation Message Dialog Box

The Cancellation Message dialog box shall allow authorized users to enter and/or edit text in the Cancelled Route's Name, Remarks and Restrictions fields of the dialog box.

When first displayed, the contents of the Reroute Name field, for the route being deleted, shall be placed in the Cancelled Route's Name field of Cancellation Message dialog.

The Cancellation Message dialog box shall indicate required fields to the user. It should, if possible, do this by underlining the labels for these fields. If underlining is not possible, then some other method may be used – such as making the background of the label a

color different than the background color of the labels for optional fields and the background color of the dialog box.

The **Cancelled Route's Name** field shall accept 30 characters. This field shall be sized to display one line of at least 20 "W" characters. It shall scroll horizontally, if needed, to enter or display additional characters. This field is a required field; there must be an entry in this field before the user is allowed to send the message.

The **Remarks** field shall accept 1024 characters. This field shall be sized to display at least seven lines of at least 30 "W" characters per line. It shall scroll vertically, if needed, to enter or display additional lines of characters.

The **Restrictions** field shall accept 1024 characters. This field shall be sized to display at least seven lines of at least 30 "W" characters per line. It shall scroll vertically, if needed, to enter or display additional lines of characters.

Cancellation Message Template

The Cancellation Message dialog box shall use the template from the Message Template table of the Reroute database that has a Message Template field with a value of 0. (Template 0)

DCC <date> REROUTE CANCELLATION <Message Type>

<Cancelled Route's Name> HAS BEEN CANCELLED.

REMARKS: <Cancel Remarks>

ASSOCIATED RESTRICTIONS: <Cancel Restrictions>
<Current Date and Time>-<Void Date and Time>

Template 0

Cancellation Message Template Variables

<date>: Cancellation Message dialog box shall replace the <date> variable with the current UTC date in the following format: mm/dd/yy

Where mm is the current month, dd is the current day of the month, and yy is the last two digits of the current year.

<Cancel Remarks>: The Cancellation Message dialog box shall replace the <Cancel Remarks> variable with the contents of the Remarks field of the Cancellation Message dialog box. If trimming leading and trailing spaces from the contents of the Remarks field results in an empty string, then the Cancellation Message dialog box shall replace the <Cancel Remarks> variable with the string: NONE

<Cancel Restrictions>: The Cancellation Message dialog box shall replace the <Cancel Restrictions> variable with the contents of the Restrictions field of the Cancellation Message dialog box. If trimming leading and trailing spaces from the contents of the Restrictions field results in an empty string, then the Cancellation Message dialog box shall replace the <Cancel Restrictions> variable with the string: NONE

<Current Date and Time>: The Cancellation Message dialog box shall replace the <Current Date and Time> variable with the current UTC day and time in the following format: ddhhmm

Where dd is the current day, hh is the current hour, and mm is the current minute of the current hour.

<Void Date and Time>: The Cancellation Message dialog box shall replace the <Void Date and Time> variable with the void day and time in UTC. The void day and time shall be calculated by adding one hour to the current day and time. The format for <Void Date and Time> shall be: ddhhmm

Where dd is the day, hh is the hour, and mm is the minute of the hour.

Preview

When the user presses the Preview button, the Cancellation Message dialog shall display the Message Preview dialog box. The Message Preview dialog box will show the user a read-only preview of the message that has been built using the message template and substituting all variables in the template with appropriate values.

Send

Human-Readable Message

When the user presses the Send button, the Cancellation Message dialog shall invoke ETMS Email and send the message that has been built.

The Cancellation Message dialog will use the path specified by the Tsd*PathToEmail entry in the TSD X application resource file to invoke ETMS Email as follows:

Email [-ag group] [-t type] [-m message]

-ag group - specifies address group to use

-t type - specifies the message type. A message can be of type adv or gen.

-m message - specifies a message or file to send. A message must be enclosed within quotes.

The Cancellation Message dialog shall use the selection made in the Address list box for the –ag argument and the setting of the Message Type radio button for the –t argument. The –m argument shall be set as follows:

- If the value of the Composite Advisory checkbox is False (unchecked) the Cancellation Message dialog shall build a message by using the appropriate Message Template and replacing all of the variables in the template with the appropriate values. It shall then pass this message to ETMS Email using the –t argument.

- If the value of the Composite Advisory checkbox is True (checked) the Cancellation Message dialog shall build a message as follows

    - Using the appropriate Message Template replace all of the variables in the template with the appropriate values.
    - Append a blank line to the bottom of the message.
    - Append the string SUMMARY OF ACTIVE REROUTES.
    - Append a line of asterisks.
    - Append a blank line.
    - Append the composite message block. The composite message block shall be constructed as follows:
        - Query the In-use table of the Reroute database for the contents of the Reroute Name and Message fields for each record that has an Active Flag with a value of 1 and a Type of Route of Public, ordering the records by Void Time. Note: **Make sure that the value of the Active Flag field, for the route that the user is canceling, has successfully been set to 2 before making this query.**
        - Using the records returned by the query build the message block:
            - Append the contents of the Reroute Name field.
            - Append a blank line.
            - Append the contents of the Message field.
            - Append a blank line.
            - Repeat this sequence for each record that was returned.

    It shall then pass this message to ETMS Email using the –t argument.

After passing the message to ETMS Email, the TSD shall parse the output from ETMS Email and check that the message was sent successfully, and if not, what errors occurred. The TSD shall display a message box indicating either that the message was sent successfully, or to report any errors.

<u>Machine-Readable Message</u>

To be determined.